

REMARKS

Claims 1, 4 and 5 are amended and claims 2 and 3 cancelled herein. Claims 1, 4-30 and 34-37 will be pending upon entry of this amendment. Applicants acknowledge with gratitude that claims 17-30 and 37 have been allowed and that claims 5, 7-10, 12, 13 and 15 are objected to only as depending on a rejected base or intervening claim.

Furthermore, Applicants call to the Examiner's attention the Supplemental Information Disclosure Statement filed on August 6, 2003 and request consideration of the references cited therein.

General Remarks

Conventional surveying poles for use in land surveying are equipped with a sharp steel point to precisely locate the pole on the ground. However in circumstances where the ground is soft, it is undesirable to have the point engaging the ground because the point tends to penetrate the surface. If penetration occurs, the pole height will be inconsistent and even a small variation in pole height may produce significant error in surveying. Conventionally to avoid ground penetration, the steel point has been removed and replaced with part having a flat or greatly enlarged blunt end. The point replacement involves several steps and it is necessary to carry the blunt end (or the steel point) around separately from the pole until used. Carrying loose parts around is a substantial disadvantage for surveyors who not uncommonly have to walk over broken ground for large distances to reach an area to be surveyed.

Applicants' claimed invention relates to a prism pole with a point 44 covered by a shoe 46 as shown in Fig. 21. The shoe body 140 includes (in one embodiment) external threads 140C located just below a larger, knurled head 140D which contacts the end face of the male fitting 116 when the point 44 is attached to the surveying pole 26. These threads 140C mount the shoe 46 directly on the point 44 so that the shoe can be used without removing the point. The threads hold the shoe firmly in place relative to the surveying pole so that the shoe will not move or cant when the surveying pole is positioned with the shoe contacting the ground.

The claimed features provide a very material advantage in the field of surveying poles.

Response to Rejection of Claim 1

Amended claim 1 is directed to a surveying pole for use in locating a position in a survey of land comprising:

- a) at least one pole section,
- b) a point mounted on a lower end of said one pole section for engaging the ground, and
- c) a shoe sized and shaped for covering the point,
- d) the point and shoe each have threads formed thereon which are interengageable for connecting the shoe to the point in a position substantially covering the point,
- e) the shoe having a blunt bottom wall engageable with the ground where the shoe covers the point, whereby the surveying pole is capable of selective configuration for use in terrain having different surface properties without removal of the point.

Claim 1 is submitted as patentable over the references of record, including U.S. Patent No. 5,425,452 (Shanks) and/or the combination of Shanks and U.S. Patent No. 4,339,880 (Hall), in that none of them show a surveying pole having a *threaded* shoe sized and shaped for engaging and covering a *threaded* point.

Shanks, as mentioned by the Examiner, discloses a carrying device for long slender objects (i.e., golf clubs). As shown in Fig. 1, the carrying device comprises a plurality of tubes 14 fastened together and secured to a tapered shaft 16. The tapered shaft 16, which extends below the tubes 14, has an arrow 16A affixed to its free end. The arrow of the Shanks' carrying device is disclosed as being suitable for ground penetration for parking the carrying device in an upright position, ground aeration and use as a defensive weapon. (See Shanks cl. 1, ll. 39-40, cl. 1, ll. 52-54, cl. 2, ll. 16-20). The arrow 16A has a cap 16B removably attached to the point by a friction fit. There is no disclosure or suggestion that the carrying device would ever be placed on the ground with the cap on the arrow. It is apparent that the cap is employed only when the carrying device is *not* being used to contact the ground. Contacting the ground with the arrow covered by the cap would be a useless endeavor because unless the arrow penetrates the ground, the carrying device will not be able to support itself. Thus, Shanks lacks any suggestion for connecting a shoe to a point in a secure fashion (i.e., with threads) which will enable it to be used to support a pole or a carry device on the ground. The friction fit would not allow the carrying device to be held steady.

Hall fails to provide the missing disclosure in Shanks. Hall shows a surveyor's pole or stake mounted on a tripod. As recognized by the Examiner, Hall does not disclose the use of a point which has threads located so as to mate with threads on a blunt bottomed shoe or point. There is no suggestion in Hall for such structure.

Applicants traverse the finding that the addition of threads to the point and the shoe in the way particularly defined by claim 1 is an obvious choice of design. Citation of a reference

showing or suggesting the particularly claimed placement of threads is requested. *In re Bezombes et al.*, 164 U.S.P.Q. 387, 391 (CCPA 1970). The fact that threaded connections are well known does not make every application of threads unpatentable in combination with other features. Claim 1 does not merely recite a threaded connection, but that threads are present on the point and on the shoe. The provision of threads on the point which cooperate with threads on a shoe was heretofore unknown. As explained above, the standard practice in the field of surveying poles is to remove tips and replace them with blunt ended pieces. Applicants have provided threads on the point in a position which allows them to cooperate with threads on the shoe to securely connect the shoe over the point. Thus, when the pole is placed on the ground, the shoe is rigidly held in fixed position relative to the pole so that it solidly positions the pole. This particularly claimed arrangement is not shown or suggested by Shanks or the other art of record. More specifically, the prior art lacks any suggestion for the placement of threads on the point in such a location where they can cooperate with threads on the shoe to connect the shoe in a position covering the point.

Claim 1 is also submitted as patentable for the reasons given for claim 35, below.

Accordingly, claim 1 as amended is patentable over Shanks, Hall and the other references of record. Claims 4-16 and 34 depend directly or indirectly from claim 1 and are submitted to be patentable over Shanks, Hall and the other references of record for at least the same reasons as claim 1.

Claim 6, which depends directly from claim 1, recites that the bottom wall of the shoe is flat and sized for supporting the surveying pole above soft terrain which is neither shown or suggested in either Shanks or Hall. In fact, both disclose the use of a point for penetration into the ground. Accordingly, Shanks and Hall do not show or suggest each and every features recited in claim 6. Thus, claim 6 is submitted as patentable for these additional reasons.

Claim 34, which depends from claim 1, recites in pertinent part "whereby the surveying pole has a length which is substantially unchanged upon connection of the shoe to the surveying pole." One of ordinary skill in the art of surveying poles would clearly understand that the claimed survey pole has a substantially consistent height whether equipped with a point or a shoe which covers the point. Applicants submit that the language of claim 34 must be given patentable weight for the reasons given below regarding claim 35. The prior art of record, including Shanks and Hall, fails to show a surveying pole having the requirements set forth in claim 34.

Response to Rejection of Claim 35

Claim 35 is directed a surveying pole for use in locating a position in a survey of land comprising:

- a) at least one pole section,
- b) a point mounted on a lower end of said one pole section for precise location of the surveying pole on a surface, and
- c) a shoe device formed for selective connection to the surveying pole in a configuration so that the shoe device is positioned for engaging the surface in a use position of the surveying pole while the point is out of engagement with the surface,
- d) the shoe device having a blunt bottom wall engageable with the surface and having a greater surface area for engagement with the surface than the point, whereby the surveying pole is capable of selective configuration for use in terrain having different surface properties without removal of the point.

Claim 35 is submitted to be unanticipated and patentable over the references of record, and in particular Shanks and Hall. In general, the references fail to show or suggest a surveying pole having a point and a the shoe device having a blunt bottom wall engageable with the surface and having a greater surface area for engagement with the surface than the point, whereby the surveying pole is capable of selective configuration for use in terrain having different surface properties without removal of the point. As mentioned above, neither Shanks nor Hall shows a survey pole configured for use on terrain having different surface properties. In addition, there is no suggestion or motivation for combining Hall and Shanks and thus, no basis for a rejection of the present invention under §103(a).

Applicants respectfully disagree with the Examiner's position not to afford any patentable weight to the preamble and functional language recited in claim 35. In *Kropa v. Robie*, 88 U.S.P.Q. 478, 480 (CCPA 1951) (*the case cited by the Examiner*), the court did give weight to the preamble of the claim. More particularly, the court addressed the issue whether the recitation "An abrasive article" in a claim starting "An abrasive article comprising..." limited a claim or count. In *Kropa*, the court held the phrase "An abrasive article" was "essential to point out the

invention defined by the claim or count" and that it was entitled to patentable weight. *Id.* at 481. The court went on to state, "those introductory words give life and meaning to the counts, for it is only by that phrase that it can be known that subject matter defined by the claims is comprised as an abrasive article." *Id.* In the present case, the phrase "A surveying pole" is essential to point out the invention being claimed is a surveying pole and thus, gives life and meaning to the subject matter which follows. Accordingly, *Kropa* mandates that the phrase "A surveying pole" as recited in the preamble of the presented claims be given patentable weight. Shanks fails to show or suggest a surveying pole. Moreover applicant submit one of ordinary skill in the art would not look to the art of carrying bags, like Shanks, for information regarding the construction of surveying poles.

There is no general prohibition regarding the use of functional language in a claim. "A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms." MPEP §2173.05(g); *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971). Moreover, MPEP §2173.05(g) expressly requires functional limitations be considered just like any other limitation in the claim for what they convey to a person of ordinary skill in the art. In the present case, persons of ordinary skill in the art would clearly understand the teaching of claims 35 including the portion of the claims following "whereby".

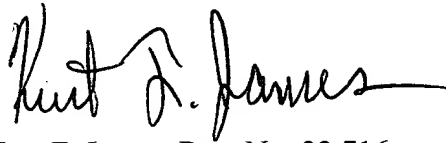
Claim 35 recites, in pertinent part, a surveying pole having an engageable shoe and point "whereby the surveying pole is capable of selective configuration for use in terrain having different surface properties without removal of the point." Thus, one of ordinary skill in the art of surveying poles would clearly understand that the claimed survey pole can be used for land surveying while equipped with either a point to precisely locate the pole on the ground or, in circumstances where the ground conditions are unsuitable for a point, a shoe, without having to remove the point from the surveying pole.

For these reasons, claim 35 is submitted to be patentable over the references of record. Claim 36 depends directly from claim 35 and is submitted to be patentable over the references of record for the same reasons as claim 35.

CONCLUSION

In view of the foregoing, favorable consideration of claims 1, 4-30 and 34-37 as now presented is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kurt F. James", with a long horizontal flourish extending to the right.

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